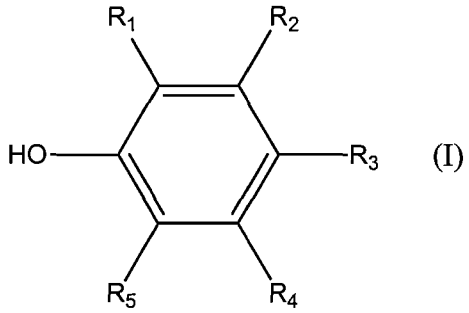
AMENDMENTS TO THE CLAIMS

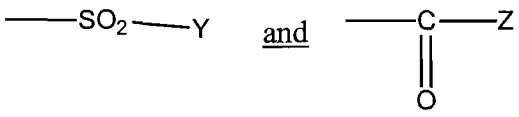
This listing of claims replaces all previous claims, and listings of claims, in the application.

1. (Currently Amended) A molecular compound selected from the group consisting of hydrates, solvates, adducts, and clathrate compounds prepared by the method of reacting a phenol derivative represented by Formula (I)



(I)

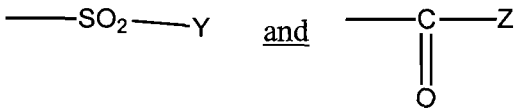
wherein R_1 and R_5 are same or different selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons or



wherein Y is selected from the group consisting of alkyl having 1 to 8 carbons, alkenyl having 2 to 8 carbons, alkoxy having 1 to 6 carbons, substituted amino, substituted cycloalkyl, substituted phenyl or substituted aralkyl

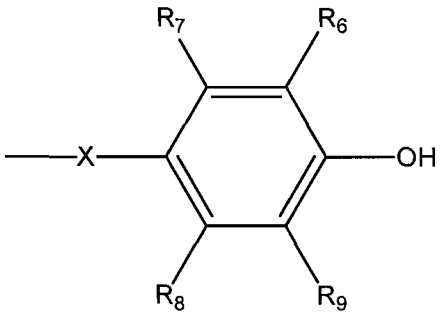
Z is selected from the group consisting of alkyl having 1 to 8 carbons, alkenyl having 2 to 8 carbons, alkoxy having 1 to 6 carbons, hydroxyl, substituted amino, substituted cycloalkyl, substituted phenyl or substituted aralkyl;

R_2 and R_4 are same or different selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, or hydroxyl, or

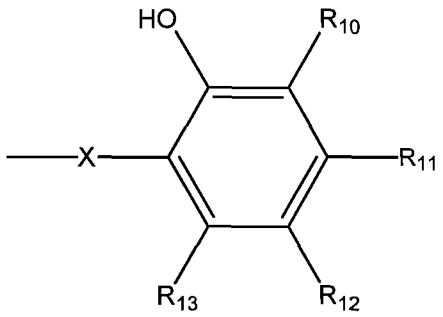


wherein Y and Z are as defined above, when R_1, R_3 or R_5 is alkoxy having 1 to 4 carbons or hydroxyl;

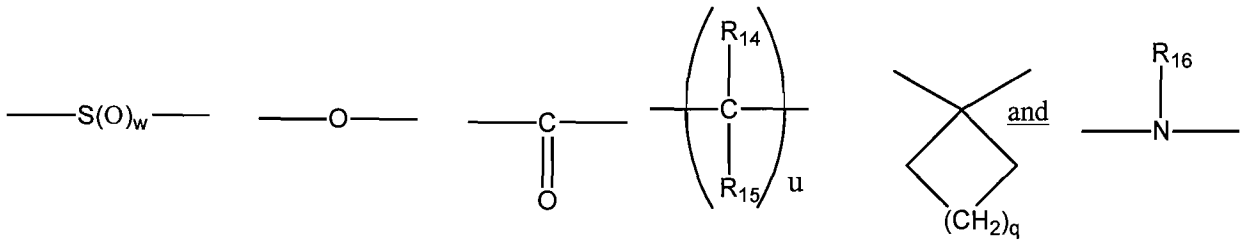
R_3 is selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl, Formula (II) or Formula (III)



(II)

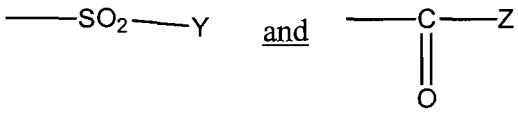


wherein X is selected from the group consisting of



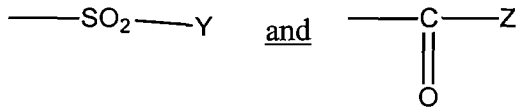
wherein w is 0, 1 or 2; u is 0 or 1; q is 0 to 4; R_{14} and R_{15} are same or different selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl, optionally substituted phenyl or optionally substituted aralkyl; R_{16} is selected from the group consisting of hydrogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl, substituted phenyl or substituted aralkyl;

R_6, R_9 and R_{10} are same or different selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl, or

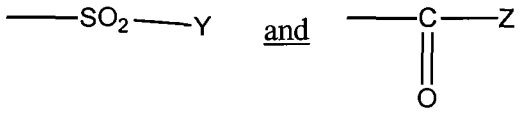


wherein Y and Z are as defined above;

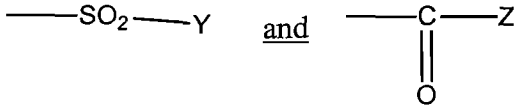
R_7, R_8, R_{11}, and R_{13} are same or different selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons or hydroxyl, but R_{11} is selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl or



wherein Y and Z are as defined above when R_{12} is alkoxy having 1 to 4 carbons or hydroxyl; R_{12} is selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl or selected from the group consisting of

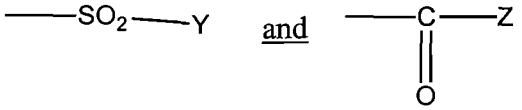


wherein Y and Z are as defined above, or selected from the group consisting of

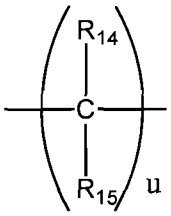


wherein Y and Z are as defined above, provided that

when R_3 is of Formula (II), one of R_1, R_5, R_6, and R_9 is selected from the group consisting of



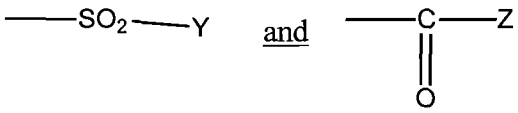
wherein Y and Z are as defined above, in which, when X is



,

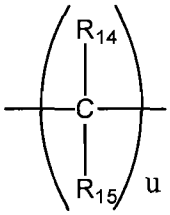
at least one of R_1, R_2, R_4, R_5, R_6, R_7, R_8, and R_9 is $—SO_2—Y$, and

when R_3 is of Formula (III), at least one of R_1, R_5, and R_{10} is selected from the group consisting of



and

in which, when X is

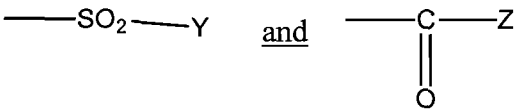


,

at least one of R_1, R_2, R_4, R_5, R_{10}, R_{11}, R_{12}, and R_{13} is $—SO_2—Y$,

wherein Y and Z are as defined above, and

when R_3 is selected from a group other than the group consisting of Formula (II) or (III), either of R_1 or R_5 is selected from the group consisting of

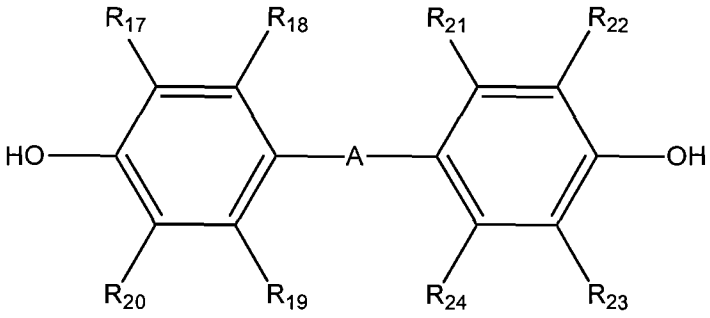


and

wherein Y and Z are as defined above, and

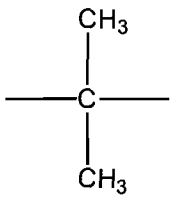
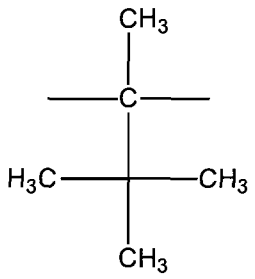
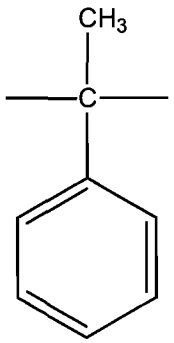
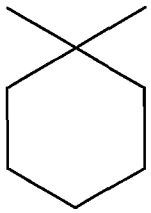
the phenol derivative is reacted with an organic compound under conditions sufficient to ~~from~~ form the molecular compound selected from the group consisting of hydrates, solvates, adducts, and clathrate compounds having the phenol derivative as a constituent, the constituent being a host.

2. (Currently Amended) A molecular compound selected from the group consisting of hydrates, solvates, adducts, and clathrate compounds prepared by the method of reacting a phenol derivative represented by Formula (IV)



(IV)

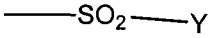
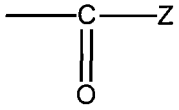
wherein A is selected from the group consisting of




and


wherein w is 0, 1 or 2 and u is 0 or 1;

R_{18}, R_{19}, R_{21} and R_{24} are same or different selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons;

R_{17} is selected from the group consisting of


and


wherein Y and Z are selected from the group consisting of

alkyl having 1 to 6 carbons,

alkenyl having 2 to 6 carbons,

cyclohexyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

cyclopentyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

phenyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or halogen,

benzyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

phenethyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

~~a~~α–methylbenzyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen, or

naphthyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen, and

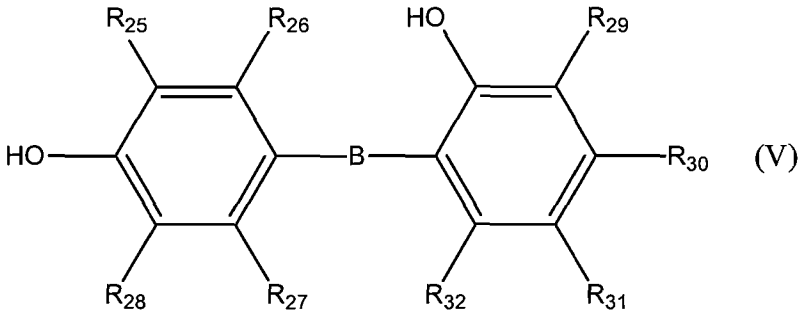
R_{20}, R_{22}, and R_{23} are same or different hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons or the same groups as those for R_{17}, when A is

$$\text{——}(CH_2)_u\text{——},$$

at least one of R_{17}, R_{20}, R_{22}, and R_{23} is $—SO_2—Y$ wherein Y is as defined above, and

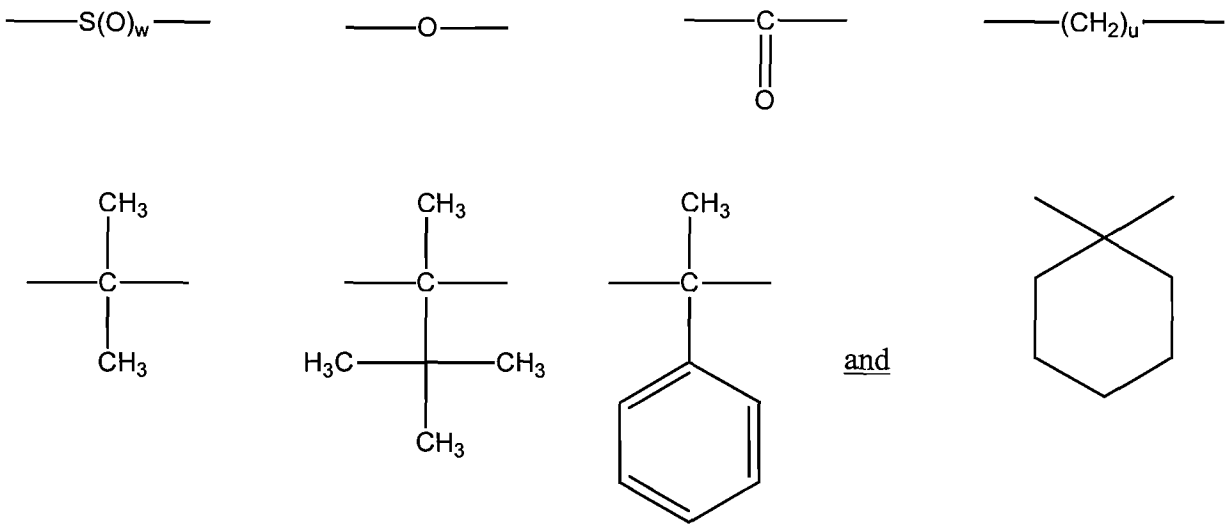
an organic compound, as the other reactant under conditions sufficient to ~~from~~ form the molecular compound selected from the group consisting of hydrates, solvates, adducts, and clathrate compounds having the phenol derivative as a constituent, the constituent being a host.

3. (Currently Amended) A molecular compound selected from the group consisting of hydrates, solvates, adducts, and clathrate compounds prepared by the method of reacting a phenol derivative represented by Formula (V)



(V)

wherein B is a group selected from

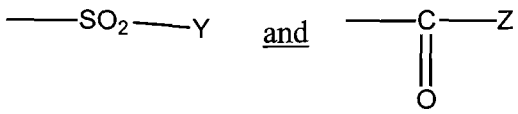


and

wherein w is 0, 1 or 2 and u is 0 or 1;

R_{26}, R_{27}, R_{30} and R_{32} are same or different selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons;

R_{25}, R_{28}, R_{29}, and R_{31} are same or different selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons or



wherein Y and Z are selected from the group consisting of

alkyl having 1 to 6 carbons,

alkenyl having 2 to 6 carbons,

cyclohexyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

cyclopentyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

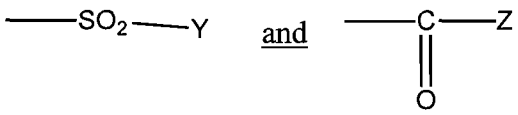
phenyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or halogen,

benzyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

phenethyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

~~a~~α–methylbenzyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen, or

naphthyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen, and at least one of R_{25}, R_{28} and R_{29} is selected from the group consisting of



wherein Y and Z are selected from the group consisting of

alkyl having 1 to 6 carbons,

alkenyl having 2 to 6 carbons,

cyclohexyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

cyclopentyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

phenyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or halogen,

benzyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

phenethyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

a~~α~~–methylbenzyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen, or

naphthyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

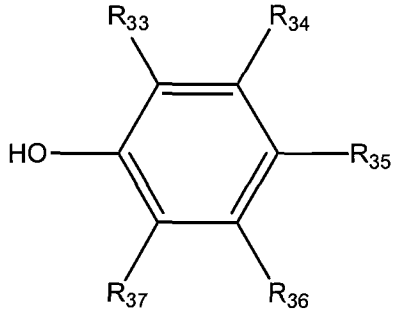
when B is

$$——(CH_2)_u——\ ,$$

at least one of R_{25}, R_{28}, R_{29}, and R_{31} is $—SO_2—Y$ wherein Y is as defined above, and

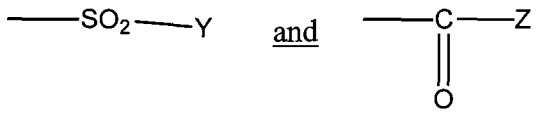
an organic compound as the second reactant under conditions sufficient to ~~from~~ form the molecular compound selected from the group consisting of hydrates, solvates, adducts, and clathrate compounds having the phenol derivative as a constituent, the constituent being a host.

4. (Currently Amended) A molecular compound selected from the group consisting of hydrates, solvates, adducts, and clathrate compounds prepared by the method of reacting a phenol derivative represented by Formula (VI)



(VI)

wherein R_{33} is selected from the group consisting of



wherein Y and Z are selected from the group consisting of

alkyl having 1 to 6 carbons,

alkenyl having 2 to 6 carbons,

cyclohexyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

cyclopentyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

phenyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or halogen,

benzyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

phenethyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

~~a~~α–methylbenzyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen, or

naphthyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen, ~~and~~

R_{34}, R_{35}, R_{36} and R_{37} are same or different selected from the group consisting of hydrogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl, halogen or the same groups as those for R_{33};

when R_{36} is $-C(=O)-Z$, R_{33} is $-SO_2-Y$; and

when R_{34} is $-C(=O)-Z$, R_{37} is hydrogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl, halogen or $-SO_2-Y$

with an organic compound as the second reactant under conditions sufficient to form the molecular compound selected from the group consisting of hydrates, solvates, adducts, and clathrate compounds having the phenol derivative as a constituent, the constituent being a host.

5-11. (Cancelled)

12. (Currently Amended) A molecular compound according to Claim 1, in which the molecular compound contains, as constituents:

a phenol derivative selected from the group consisting of Formula (I), (IV), (V), and (VI); and

a material that reacts with the phenol derivative to form a molecular compound selected from the group consisting of antibacterial agents, antifungal agents, insecticides, noxious insect repellants, perfumes, deodorants, antifouling agents, curing agents for coating materials, accelerators for coating materials, resins, adhesives, natural essential oils, antioxidants, vulcanization accelerators and organic solvents.

13. (Currently Amended) A molecular compound according to Claim 2, in which the molecular compound contains, as constituents:

a phenol derivative selected from the group consisting of Formula (I), (IV), (V), and (VI); and

a material that reacts with the phenol derivative to form a molecular compound selected from the group consisting of antibacterial agents, antifungal agents, insecticides, noxious insect repellants, perfumes, deodorants, antifouling agents, curing agents for coating materials, accelerators for coating materials, resins, adhesives, natural essential oils, antioxidants, vulcanization accelerators and organic solvents.

14. (Currently Amended) A molecular compound according to Claim 3, in which the molecular compound contains, as constituents:

a phenol derivative selected from the group consisting of Formula (I), (IV), (V), and (VI); and

a material that reacts with the phenol derivative to form a molecular compound selected from the group consisting of antibacterial agents, antifungal agents, insecticides, noxious insect repellants, perfumes, deodorants, antifouling agents, curing agents for coating materials, accelerators for coating materials, resins, adhesives, natural essential oils, antioxidants, vulcanization accelerators and organic solvents.

15. (Currently Amended) A molecular compound according to Claim 4, in which the molecular compound contains, as constituents:

a phenol derivative selected from the group consisting of Formula (I), (IV), (V), and (VI); and

a material that reacts with the phenol derivative to form a molecular compound selected from the group consisting of antibacterial agents, antifungal agents, insecticides, noxious insect repellants, perfumes, deodorants, antifouling agents, curing agents for coating materials, accelerators for coating materials, resins, adhesives, natural essential oils, antioxidants, vulcanization accelerators and organic solvents.

16. (Currently Amended) A molecular compound according to Claim 1, in which the molecular compound contains, as constituents:

a phenol derivative selected from the group consisting of Formula (I); and

a material that reacts with the phenol derivative to form a molecular compound selected from the group consisting of antibacterial agents, antifungal agents, insecticides, noxious insect repellants, perfumes, deodorants, antifouling agents, curing agents for coating materials, accelerators for coating materials, resins, adhesives, natural essential oils, antioxidants, vulcanization accelerators and organic solvents.

17. (Currently Amended) A molecular compound according to Claim 2, in which the molecular compound contains, as constituents:

a phenol derivative selected from the group consisting of Formula (IV); and

a material that reacts with the phenol derivative to form a molecular compound selected from the group consisting of antibacterial agents, antifungal agents, insecticides, noxious insect repellants, perfumes, deodorants, antifouling agents, curing agents for coating materials, accelerators for coating materials, resins, adhesives, natural essential oils, antioxidants, vulcanization accelerators and organic solvents.

18. (Currently Amended) A molecular compound according to Claim 3, in which the molecular compound contains, as constituents:

a phenol derivative selected from the group consisting of Formula (V); and

a material that reacts with the phenol derivative to form a molecular compound selected from the group consisting of antibacterial agents, antifungal agents, insecticides, noxious insect repellants, perfumes, deodorants, antifouling agents, curing agents for coating materials, accelerators for coating materials, resins, adhesives, natural essential oils, antioxidants, vulcanization accelerators and organic solvents.

19. (Currently Amended) A molecular compound according to Claim 4, in which the molecular compound contains, as constituents:

a phenol derivative selected from the group consisting of Formula (VI); and

a material that reacts with the phenol derivative to form a molecular compound selected from the group consisting of antibacterial agents, antifungal agents, insecticides, noxious insect repellants, perfumes, deodorants, antifouling agents, curing agents for coating materials, accelerators for coating materials, resins, adhesives, natural essential oils, antioxidants, vulcanization accelerators and organic solvents.

20-27. (Cancelled)

28. (Currently Amended) The molecular compound prepared according to the method of ~~claim~~ Claim 1, wherein the organic compound is selected from the group comprising:

antibacterial agents, antifungal agents, insecticides, noxious insect repellants, perfumes, deodorants, antifouling agents, curing agents and accelerators for coating materials, resins and adhesives, natural essential oils, antioxidants, vulcanization accelerators or organic solvents, that react with the said phenol derivative to form the molecular compound.

29. (Currently Amended) The molecular compound prepared according to the method of ~~claim~~ Claim 2, wherein the organic compound is selected from the group comprising:

antibacterial agents, antifungal agents, insecticides, noxious insect repellants, perfumes, deodorants, antifouling agents, curing agents and accelerators for coating materials, resins and adhesives, natural essential oils, antioxidants, vulcanization accelerators or organic solvents, that react with the said phenol derivative to form the molecular compound.

30. (Currently Amended) The molecular compound prepared according to the method of ~~claim~~ Claim 3, wherein the organic compound is selected from the group comprising:

antibacterial agents, antifungal agents, insecticides, noxious insect repellants, perfumes, deodorants, antifouling agents, curing agents and accelerators for coating materials, resins and

adhesives, natural essential oils, antioxidants, vulcanization accelerators or organic solvents, that react with the said phenol derivative to form the molecular compound.

31. (Currently Amended) The molecular compound prepared according to the method of ~~claim~~ Claim 4, wherein the organic compound is selected from the group comprising:

antibacterial agents, antifungal agents, insecticides, noxious insect repellants, perfumes, deodorants, antifouling agents, curing agents and accelerators for coating materials, resins and adhesives, natural essential oils, antioxidants, vulcanization accelerators or organic solvents, that react with the said phenol derivative to form the molecular compound.